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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,786	06/29/2001	Hong-Sung Song	049128-5021	6023

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EXAMINER

NGUYEN, JENNIFER T

ART UNIT PAPER NUMBER

2674

DATE MAILED: 05/03/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/894,786

Applicant(s)

SONG ET AL.

Examiner

Jennifer T Nguyen

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This Office action is responsive to amendment filed on 02/10/2004.

#### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-5 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Matsushima et al. (Pub. No.: US 2001/0013852).

Regarding claims 1, 4, 5, and 9, referring to Figs. 6 and 7, Matsushima teaches a method of driving a liquid crystal display panel using a 2-dot inversion system, the method comprising the steps of: applying a gate start pulse (SPG) to a gate driver (GS-P) applying gate signals to plurality of gate lines (Q1, P1-P256); sequentially pre-charging a plurality of pixel cells of the liquid crystal display panel along a plurality of gate lines (Q1, P1-P256); and sequentially charging the pixel cells with a plurality of data signals along the gate lines (Q1, P1-P256) after pre-charging the pixel cells, wherein the gate start pulse (SPG) has the same width as that of the gate signals and is overlapped with one of the gate signals (Q1) (see paragraphs [0103]-[0115]).

Regarding claim 2, Nishimura further teaches the pre-charging step is carried out when the pixel cells on the preceding gate line charges the data signal (see paragraphs [0103]-[0115]).

Regarding claim 3, Nishimura further teaches the pre-charging step is carried out at the time interval the same as the data signal charging step (see paragraphs [0103]-[0115]).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsushima et al. (Pub. No.: US 2001/0013852) in view of Yamaguchi (U.S. Patent No.: 6,552,709).

Regarding claim 6, referring to Figs. 6 and 7, Matsushima teaches an apparatus for driving a liquid crystal display panel employing a 2-dot inversion system, comprising: a liquid crystal panel having a plurality of pixel cells arranged to cross a plurality of source lines and gate lines each other; a gate driver (GS-P, GS-1...GS-257) for applying a gate signal to each gate line such that pixel cells on the gate lines of the liquid crystal display panel sequentially charge data signals to each source line along the gate lines (see paragraphs [0103]-[0115]).

Matsushima differs from claim 6 in that he does not specifically teach a dual gate start pulse generator pre-charging the pixel cells prior to charging data signals to the source line. However, referring to Figs. 1 and 2, Yamaguchi teaches a dual gate start pulse generator (SP2) pre-charging the pixel cells prior to charging data signals to the source line (col. 7, lines 20-60). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the dual start pulse generator as taught by Yamaguchi in the system of Matsushima in order to minimize a horizontal flickering noise.

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Regarding claim 7, Matsushima further teaches a dual gate start pulse generator pre-charges the pixel cells when the pixel cell on the preceding gate line charges the data signal (see paragraphs [0103]-[0115]).

Regarding claim 8, Matsushima further teaches the dual gate start pulse generator allows the pixel cells to carry out the pre-charging in a time interval equal to an interval for charging the data signal (see paragraphs [0103]-[0115]).

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsushima et al. (Pub. No.: US 2001/0013852) in view of Kim (U.S. Patent No. 6,342,876).

Regarding claim 10, Matsushima teaches the gate driver (GS-P, GS-1...GS-257) applying a plurality of first gate signals to the gate lines, wherein the first gate signals have a width of one horizontal synchronization interval and sequentially enabled therein; and a width controller (7) (Fig. 4) connected to the gate driving (GS-P, GS-1...GS-257) and the gate lines and executing a logical operation of each of the first gate signals and each of second gate signals to be applied to the preceding gate line, thereby generating the first gate signals (see paragraphs [0057], [0103]-[0115]).

Matsushima differs from claim 10 in that he does not specifically teach the gate driver is a gate driving integrated circuit chip. However, referring to Fig. 10, Kim teaches gate driver (20) is a gate driving integrated circuit chip (col. 5, lines 42-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the driving integrated circuit chip as taught by Kim in the system of Matsushima in order to simplify the circuit, reduce weight and cost of the device.

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7. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jennifer T. Nguyen** whose telephone number is **703-305-3225**. The examiner can normally be reached on Mon-Fri from 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard A Hjerpe** can be reach at **703-305-4709**.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks


Washington, DC. 20231

**Or faxed to: 703-872-9306 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, sixth-floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is 703-306-0377.

JNguyen  
04/28/2004

  
**REGINA LIANG**  
**PRIMARY EXAMINER**